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| 10/599,721   | 07/30/2007  | Jean-Claude Abed     | 034423/317776               | 3281             |
| 826  | 7590        | 08/17/2010           |                             |                  |
| ALSTON & BIRD LLP<br>BANK OF AMERICA PLAZA<br>101 SOUTH TRYON STREET, SUITE 4000<br>CHARLOTTE, NC 28280-4000 |             |                      | EXAMINER<br>SYKES, ALTREV C |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/599,721

**Applicant(s)**

ABED ET AL.

**Examiner**

ALTREV C. SYKES

**Art Unit**

1786

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3 and 5-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The amendment to the claims filed August 4, 2010 is acknowledged by examiner and has been entered. As such, the rejection of claims 9 and 12 under 35 USC 112, second paragraph has been withdrawn. Claims 2 and 4 are cancelled. Claims 1, 3 and 5-18 are pending.

***Response to Arguments***

2. Applicant's arguments filed August 4, 2010, with respect to the rejection(s) of claim(s) claims 1 and 3-18 have been fully considered. Examiner is not persuaded that the Anderson reference did not qualify as prior art because the *publication* date was after the filing date of the National Phase Application of the instant application. It is noted that the reference qualified as prior art because the filing date of the Anderson was before that of the National Phase Application.

Applicant has further stated for the record that the Anderson prior art and the instant application were commonly owned at the time the invention was made. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of prior art previously made of record and newly found prior art. Examiner notes that applicant has presented no arguments against the Langley, Groitzsch, or Wehner prior art.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1, 3, 5-13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langley (US 5,560,974) in view of Groitzsch et al. (US 6,448,462) and Pike et al. (US 5,597,645).

Regarding claims 1, 3, 5-9 Langley discloses the breathable non-woven composite barrier fabrics are impervious to water-based liquids such as body fluids but which allow passage of water vapor. (See Col 1, lines 13-16) Langley discloses spun-bonded polypropylene or polyethylene or co-polymers of polyolefins are suitable for use. (See Col 6, lines 10-12)

Regarding the claimed weight per unit area: Langley discloses the non-woven thermoplastic layer of web materials have a weight of from about 0.2 to about 2.5 ounces per square yard with about 0.5 to about 1.0 being preferred. (See Col 6, lines 3-5) As such, examiner equates the web material basis weight as taught by Langley (through simple unit conversions) to range between  $6.78 \text{ g/m}^2$  and  $84.76 \text{ g/m}^2$  with a range of  $16.95 \text{ g/m}^2$  to  $33.91 \text{ g/m}^2$  being preferred. Therefore, the weight per unit area limitations of  $7 \text{ g/m}^2$  to  $20 \text{ g/m}^2$  as claimed by applicant are taught by the prior art. Langley discloses all of the claim limitations (i.e. spunbond fleece having the weight per unit area as claimed by applicant) as set forth above but the reference is not explicit to a low fiber titer.

Groitzsch et al. discloses a microfilament nonwoven fabric with a mass per unit area of 30 to  $150 \text{ g/m}^2$  having a titer of 1.5 to 5 dtex for the continuous multicomponent filaments therein. (See Abstract) Groitzsch et al. discloses that the nonwoven fabric for medical bandaging that has high gas and water vapor permeability. (See Col 1, lines 30-36) Groitzsch et al. discloses a particularly advantage is one in which the continuous multicomponent filament composed of polyesters together with polypropylene, polyethylene, and polyamide 6. (See Col 1, lines 64-67 and Col 2, lines 1-8) Groitzsch et al. discloses the nonwoven material may be spunbonded. (See Example 1).

As Langley and Groitzsch et al. are both directed to spunbonded nonwoven fabrics of polymeric materials, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention motivated by expected success to

utilize the titer as taught by Groitzsch et al. for the polymer fibers in the nonwoven of Langley since Groitzsch et al. teaches that the low fiber titer is favorable for achieving high water vapor permeability in fabrics, which is also a goal of Langley. (See Groitzsch et al. Col 1, lines 30-36 and See Langley Col 1, lines 16-23) Modified Langley discloses all of the claim limitations as set forth above, but the reference does not specifically teach the polymer fibers have a non-circular cross section as claimed by applicant.

Pike et al. discloses a filter medium for gaseous fluids, comprising a nonwoven web. (See Col 1, lines 4-6) Pike et al. discloses particularly desirable are spunbound fibers. (See Col 2, lines 5-10 and 16-30) Pike discloses the fibers may be polyolefins such as polyethylene. (See Col 5, lines 57-67) Pike et al. discloses the filter efficiency of the filter media can be further improved by utilizing fibers that have a cross-sectional shape that allows the fibers to form a filter medium which has slender interfiber pore configurations. Suitable cross-sectional shapes include trilobal and other multilobal shapes. (See Col 9, lines 28-36)

As modified Langley and Pike et al. are all directed to spunbonded nonwoven fabrics, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention motivated by expected success to substitute the polyolefin cross-sectional configurations as taught by Pike et al. for the polyolefin fibers as disclosed by Langley since Langley is not explicit to a particular cross-section for the

fibers and Pike is teaches that the filter efficiency (i.e. vapor permeability) can be further improved when such cross-sectional shapes are used. (See Col 9, lines 28-36)

Regarding the limitations of claims 1, 7, and 8 with respect to a spunbond fleece having a particular light permeability, air permeability or a combination of both, examiner notes that one of ordinary skill in the art at the time of the invention would have been easily motivated to modify the light permeability and air permeability to meet the claimed ranges of applicant with the desire to tailor the fabric for end use. Specifically, Langley discloses the breathable non-woven composite barrier fabrics are impervious to water-based liquids such as body fluids but allow passage of water vapor. (See Col 1, lines 13-16) In the present invention, one would have been motivated to optimize the air permeability motivated by the desire to tailor the fabric for end use. (See Col 1, lines 16-23)

Finally regarding claim 1, examiner notes that how the reduction of light permeability is measured does not further define the structure of a spunbond fleece of polymer fibers. As such, the structure as claimed does not change if one were to measure the reduction of light permeability by a different method. It is therefore maintained that the prior art provides a structure for a spunbond fleece of polymer fibers. In that case, one would expect to be able to measure the reduction of light permeability in the same manner claimed by applicant.

Regarding claim 5, Langley discloses the utilized microporous films have a structure that enables vapors to flow through the films while blocking liquids. Such films are generally opaque, even when made of a transparent material because the surfaces of the internal structure scatter visible light. (See Col 1, lines 48-54) Therefore, examiner notes that light permeability of the final fabric would be expected to be low thereby providing for high optical opacity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the optical opacity since it has been held that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The burden is upon the Applicant to demonstrate that the claimed optical opacity is critical and has unexpected results. In the present invention, one would have been motivated to optimize the optical opacity motivated by the desire to tailor the fabric for end use. (See Col 1, lines 16-23)

Regarding claim 10, Langley discloses a non-woven web layer is adhesive bonded to a microporous film of polyolefin materials either on one side only or on both sides of the microporous film. (See Col 1, lines 25-28)

Regarding claims 11 and 13, Langley discloses point or spot applications of the adhesives whether in liquid or powder form can achieve the goals of both the performance and strength. (See Col 5, lines 8-17) Langley discloses the thermal bonding of the webs and film is at multiple spaced-apart locations. (See Col 4, lines 58-62) Therefore, one of



ordinary skill in the art would expect for the adhesive to only penetrate the surface of the fabric. Because Langley is explicit about point or spot applications of the adhesives, it would have been obvious to one of ordinary skill in the art to optimize the portion of adhesive per m<sup>2</sup> motivated by the desire to tailor the performance and strength for various fabric end uses. (See Col 5, lines 2-7)

Regarding claim 12, examiner notes that applicant's disclosure of an adhesive is very brief. (See pg. 7, 3rd paragraph) As such, it is noted that there is no mention of an adhesive in either of the provided examples of applicant and there are no additional steps disclosed which would be required for tailoring the adhesive to have the properties as claimed by applicant. Langley discloses The adhesive systems usually exist in aqueous dispersions but can be added to the non-woven composite materials as solutions or solids in thermal plastic form. (See Col 2, lines 40-45) Typical application methods include printing and spraying. (See Col 2, lines 45-46) Therefore, a prima facie case of obviousness exists for one of ordinary skill in the art to choose an appropriate adhesive as required by the final fabric end use. It also would have been obvious to one of ordinary skill in the art to optimize the dynamic viscosity based on the chosen adhesive application method.

Regarding claims 16-18, Langley discloses applications for such fabrics exist in the field of protective garments for medical technicians, laboratory workers, and the like. (See Col 1, lines 16-23) Langley further discloses the microporous films have been used

individually in applications for filtration of solids, and in the preparation of cloth laminates. These films have also been utilized to make surgical dressings, bandages and other fluid transmissive medical applications.. (See Col 1, lines 61-67 and Col 2, lines 1-8) Therefore, it would have been obvious to one of ordinary skill in the art to provide a hygiene product, filter material, or household cloth comprising the spunbond fabric of Langley since the reference is explicit to laminating the fabric to microporous films designed for such purposes.

6. Claims 11-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langley (US 5,560,974) in view of Groitzsch et al. (US 6,448,462) and further in view of Pike et al. (US 5,597,645) as set forth above, and further in view of Wehner et al. (US 6,063,981).

This rejection maintains the position that the Langley prior art is deemed relevant to the instant claims; however, the position taken below is in the alternative of that set forth above for claims 11 and 13.

Regarding claims 11 and 13, modified Langley et al. discloses all of the claim limitations as set forth above, but the reference does not specifically disclose the fabric has a low penetration of adhesive in the amount between 0.5 g/m<sup>2</sup> and 10 g/m<sup>2</sup>.

Wehner et al. discloses a disposable absorbent product comprising a nonwoven material, such as a breathable film which exhibits desirable aesthetic properties and an adhesive which exhibits unique rheological properties. (See Col 2, lines 34-41) Wehner et al. discloses exemplary materials suitable for use as the topsheet are liquid-permeable materials, such as spunbonded polypropylene. (See Col 4, lines 1-4) Wehner et al. discloses the adhesive is contacted with a breathable film/nonwoven laminate. (See Col 4, lines 9-11) Wehner et al. discloses the adhesive will be applied to a substrate in an amount that is beneficially between about 0.5 gram to about 10 grams per square meter of applied surface area of the adhesive. (See Col 11, lines 30-35)

As modified Langley and Wehner et al. are both directed to the use of spunbonded polypropylene fabrics in articles, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a low penetration of adhesive as taught by Wehner et al. for the nonwoven fabric as disclosed by modified Langley motivated by expected success and the desire to provide a nonwoven material that has reduced visibility of the adhesive in the final article produced. (See Col 1, lines 8-11) Further, it would have been obvious to one of ordinary skill in the art at the time of the invention motivated by expected success to tailor the amount and type of adhesive as taught by Wehner et al. to that as claimed by applicant for use in the nonwoven fabric of modified Langley in order to provide a nonwoven fabric of particular intended use as a substrate for a disposable product.

Regarding claim 12, modified Langley et al. discloses all of the claim limitations as set forth above, but the reference does not specifically disclose a dynamic viscosity for the adhesive.

Wehner et al. discloses a bonding agent or tackifying agent is used to permit bonding of the film layer to a nonwoven layer. (See Col 5, lines 14-30)

Examiner notes that applicant's disclosure of an adhesive is very brief. (See pg. 7, 3rd paragraph) As such, it is noted that there is no mention of an adhesive in either of the provided examples of applicant and there are no additional steps disclosed which would be required for tailoring the adhesive to have the properties as claimed by applicant. Therefore, it would have been well within the ordinary skill of one in the art at the time of the invention to utilize the teaching of Wehner et al. for bonding and tackifying agents in order to provide an adhesive as claimed by applicant motivated by expected success of producing an article comprising a nonwoven material with a favorable adhesive thereon.

Regarding claims 14 and 15, Wehner et al. further discloses both organic and inorganic fillers (i.e. inorganic salt) are contemplated provided that they do not interfere with the film formation process, the breathability of the resultant film or, if desired, its ability to thermally bond to a fibrous polyolefin nonwoven web. Examples of fillers include calcium carbonate ( $\text{CaCO}_3$ ), and titanium dioxide. (See Col 5, lines 1-14) Therefore, the limitation of adding one or more inorganic salts is met by the prior art.

Regarding claim 16, Wehner et al. discloses exemplary materials suitable for use as the topsheet of the disposable absorbent article are liquid-permeable materials, such as spunbonded polypropylene. (See Col 4, lines 1-4) Therefore, the limitation of a spunbond fleece used in a hygiene product is met by the prior art.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Langley (US 5,560,974) in view of Groitzsch et al. (US 6,448,462) and further in view of Pike et al. (US 5,597,645) as set forth above, and further in view of Wehner et al. (US 6,063,981) and Delucia et al. (US 6,797,377).

Regarding claim 15, Wehner et al. discloses examples of fillers include calcium carbonate ( $\text{CaCO}_3$ ), and titanium dioxide. (See Col 5, lines 1-14) However the combined references do not specifically disclose the one or more inorganic salts between 0.1 and 5% by weight.

Delucia discloses nonwoven webs made from thermoplastic polymers. (See Abstract) Delucia discloses the nonwoven webs may be formed from spunbonding processes. (See Col 2, lines 5-10) Delucia discloses additives may be added to the polymers forming the fibers for coloration, anti-static properties, lubrication, hydrophilicity, etc. These additives, e.g. titanium dioxide for coloration, are generally present in an amount less

than 5 weight percent and more typically about 2 weight percent. (See Col 2, lines 55-62)  
Delucia further discloses calcium carbonate may be included in the fibers for the purpose of improved visual aesthetics. (See Col 4, lines 1-15)

As modified Langley and Delucia et al. are both directed to spunbond nonwovens, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize an additive in the amount as taught by Delucia et al. for the fabric of modified Langley motivated by the desire to tailor the visual aesthetics as well as anti-static properties, lubrication, hydrophilicity, etc. (See Col 2, lines 55-62 and Col 4, lines 1-15)

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALTREV C. SYKES whose telephone number is (571)270-3162. The examiner can normally be reached on Monday-Thursday, 8AM-5PM EST, alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 1786

/ACS/  
Examiner  
8/9/10